that the prior art of record fails to specifically disclose an optical amplifier with a mode field diameter that is greater than 10μm.

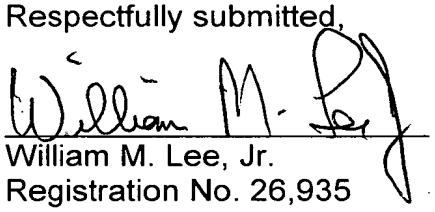
The amendment is thus essentially amending the claims to include the subject matter indicated to be allowable in the Office Action, and the amendment does not therefore raise new issues.

Formal drawings are also submitted herewith.

It is submitted that this application is now in condition for allowance, and such action is therefore solicited.

November 4, 2002

Respectfully submitted,



William M. Lee, Jr.
Registration No. 26,935
Lee, Mann, Smith, McWilliams,
Sweeney & Ohlson
P.O. Box 2786
Chicago, Illinois 60690-2786
(312) 368-6620
(312) 368-0034 (fax)

Version with markings to show changes made

1. (once amended) An optical amplifier comprising a doped fiber core and a cladding layer surrounding the core, the mode field diameter of the fiber being greater than [8] 10 μm and the refractive index difference between the core and the cladding layer being selected such that the cut- off wavelength at which the fiber becomes single mode lies in the range 1000-1550nm.

4. (once amended) An optical amplifier comprising multiple fiber sections, a first fiber section being positioned at the input of the amplifier, and a second section being positioned at the output of the amplifier, wherein the second fiber section comprises a doped fiber core and a cladding layer surrounding the core, the mode field diameter of the fiber being greater than [8] 10 μm, and the magnitude of the radial variation of refractive index difference between the core and the cladding layer being selected such that the cut- off wavelength at which the fiber becomes single mode lies in the range 1000-1550nm, and wherein the first fiber section has a lower mode field diameter than the second fiber section.

7. (twice amended) An optical transmission system comprising a transmitting node, a receiving node and an optical fiber link between the nodes, wherein the link includes one or more amplifying repeaters, each comprising an amplifier having a doped fiber core and a cladding layer surrounding the core, the mode field diameter of the fiber being greater than [8] 10 μm and the refractive index difference between

the core and the cladding layer being selected such that the cut- off wavelength at which the fiber becomes single mode lies in the range 1000-1550nm.

8. (once amended) An optical transmission system comprising a transmitting node, a receiving node and an optical fiber link between the nodes, wherein the link includes one or more amplifying repeaters, each comprising an amplifier having two or more fiber sections, a first fiber section being positioned at the input of the amplifier, and a second section being positioned at the output of the amplifier, wherein the second fiber section comprises a doped fiber core and a cladding layer surrounding the core, the mode field diameter of the fiber being greater than [8] 10 μm and the refractive index difference between the core and the cladding layer being selected such that the cut- off wavelength at which the fiber becomes single mode lies in the range 1000-1550nm, and wherein the first fiber section has a lower mode field diameter than the second fiber section.

9. (twice amended) A method of designing an optical fiber comprising a core and cladding, for use in an optical amplifier, comprising the steps of:

selecting a core diameter such that the mode field diameter of the fiber is greater than [8] 10 μm and such that low frequency attenuation is below desired limits;

selecting a refractive index difference between the core and the cladding layer such that the cut-off wavelength at which the fiber becomes single mode lies in the range 1000-1550nm and such that bending losses are below desired limits.